

WHAT IS CLAIMED IS:

1. A process of manufacturing a cellulose molding, the process comprising:
  - steaming corncob meal at a temperature of about 150 to 250°C and a pressure of about 20 to 29 MPa;
  - filtering the steamed corncob meal with a filtering device to obtain a solid; and
  - molding the solid.
2. The process of claim 1, wherein the molding comprises:
  - separating the solid into a first solid and a second solid;
  - dehydrating and acetylating the first solid by adding acetic anhydride and sulfuric acid thereto;
  - filtering the dehydrated and acetylated solid with a filtering device to remove a solid and obtain filtrate; and
  - stirring and mixing the filtrate and the second solid to obtain a liquid product.
3. The process of claim 1, wherein the steaming is performed at a temperature of about 180 to 200°C and a pressure of about 25 to 28 MPa.
4. The process of claim 1, wherein the steaming is performed for about 10 to 30 minutes.
5. The process of claim 1, wherein the steaming is performed for about 15 to 20 minutes.
6. The process of claim 1, wherein the steamed corncob meal includes a mixture, comprising a cellulose, wherein the filtering comprises separating the mixture so as to obtain the cellulose as a solid.

7. A plant component extracting apparatus comprising:  
raw material processing means including a raw material supply portion for supplying a plant raw material and a raw material pressurizing portion for heating and pressurizing the supplied plant raw material at a temperature of about 150 to 350°C and a pressure of about 5 to 30 MPa, respectively;

hot water supply means including a pressurizer and a heater and supplying sub-critical water having a temperature of about 300 to 350°C pressurized at a pressure of about 28 to 30 MPa; and

hot water reacting means for carrying out a steaming treatment by mixing the heated and pressurized plant raw material with the sub-critical water supplied from the hot water supply means.

8. The apparatus of claim 7, wherein the hot water reacting means is formed by a hollow body through which the plant raw material passes, and a plurality of moving vanes are provided inside the hollow body and disposed adjacent to each other so as to alternately rotate in reverse directions with a direction in which the plant raw material passes through the hollow body being the axis of rotation.

9. The apparatus of claim 7, wherein:

the raw material pressurizing portion includes a hollow base body at which the raw material supply portion is provided, a rod-shaped rotating body disposed inside the hollow base body and having a spiral groove, and a heater for heating the inside of the hollow base body, the width of the spiral groove narrowing from one end, at which the raw material supply portion is provided, toward the other end; and

the raw material pressurizing portion compresses the supplied plant raw material by rotating the rod-shaped rotating body to convey the raw material from the one end toward the other end while heating and pressurizing the raw material.

10. The apparatus of claim 7, further comprising cooling means for cooling the product produced in the steaming treatment by mixing the product with supplied cold water.

11. The apparatus of claim 7, further comprising a filtering device for filtering the product produced in the steaming treatment.

12. The apparatus of claim 7, wherein the plant raw material is at least one selected from the group consisting of corncobs, plant seeds, bagasse, kenaf, reeds and rice straw.

13. The apparatus of claim 8, wherein:

the raw material pressurizing portion includes a hollow base body at which the raw material supply portion is provided, a rod-shaped rotating body disposed inside the hollow base body and having a spiral groove, and a heater for heating the inside of the hollow base body, the width of the spiral groove narrowing from one end, at which the raw material supply portion is provided, toward the other end; and

the raw material pressurizing portion compresses the supplied plant raw material by rotating the rod-shaped rotating body to convey the raw material from the one end toward the other end while heating and pressurizing the raw material.

14. The apparatus of claim 8, further comprising cooling means for cooling the product produced in the steaming treatment by mixing the product with supplied cold water.

15. The apparatus of claim 8, further comprising a filtering device for filtering the product produced in the steaming treatment.
16. The apparatus of claim 8, wherein the plant raw material is at least one selected from the group consisting of corncobs, plant seeds, bagasse, kenaf, reeds and rice straw.
17. The apparatus of claim 9, further comprising cooling means for cooling the product produced in the steaming treatment by mixing the product with supplied cold water.
18. The apparatus of claim 9, further comprising a filtering device for filtering the product produced in the steaming treatment.
19. The apparatus of claim 9, wherein the plant raw material is at least one selected from the group consisting of corncobs, plant seeds, bagasse, kenaf, reeds and rice straw.
20. The apparatus of claim 10, further comprising a filtering device for filtering the product produced in the steaming treatment.
21. The apparatus of claim 10, wherein the plant raw material is at least one selected from the group consisting of corncobs, plant seeds, bagasse, kenaf, reeds and rice straw.
22. The apparatus of claim 11, wherein the plant raw material is at least one selected from the group consisting of corncobs, plant seeds, bagasse, kenaf, reeds and rice straw.
23. The apparatus of claim 7, wherein the heating and pressurizing of the supplied plant raw material are performed at a temperature of about 180 to 300°C and a pressure of about 15 to 28 MPa, respectively.

24. The apparatus of claim 7, wherein the steaming treatment is performed for about 10 to 30 minutes.

25. The apparatus of claim 7, wherein the steaming treatment is performed for about 15 to 20 minutes.

26. A process of manufacturing cellulose acetate, the process comprising:

steaming a material selected from one or more of bagasse, kenaf, reeds and rice straw in a pressure vessel at a temperature of about 150 to 350°C and a pressure of about 15 to 29 MPa;

filtering the steamed material with a filtering device to obtain a solid; and

dehydrating and acetylating the solid by adding acetic anhydride and sulfuric acid to the solid.

27. The process of claim 26, wherein the steaming is performed at a temperature of about 150 to 250°C and a pressure of about 15 to 25 MPa, respectively.

28. The process of claim 26, wherein the steaming is performed at a temperature of about 180 to 200°C and a pressure of about 25 to 28 MPa, respectively.

29. The process of claim 26, wherein the steaming is performed for about 10 to 30 minutes.

30. The process of claim 26, wherein the steaming is performed for about 15 to 20 minutes.

31. The process of claim 26, wherein the steamed material

includes a mixture, comprising a cellulose, wherein the filtering comprises separating the mixture so as to obtain the cellulose as a solid.

32. A plant component extracting apparatus comprising:

a raw material processing device including a raw material supply portion configured to supply a plant raw material and a raw material pressurizing portion configured to heat and pressurize the supplied plant raw material at a temperature of about 150 to 350°C and a pressure of about 5 to 30 MPa, respectively;

a hot water supply device, including a pressurizer and a heater, configured to supply sub-critical water having a temperature of about 300 to 350°C pressurized at a pressure of about 28 to 30 MPa; and

a hot water reactor configured to carry out a steaming treatment by mixing the heated and pressurized plant raw material with the sub-critical water supplied from the hot water supply device.